

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Currently Amended) A fuel cell system including a fuel cell that generates electricity through an electrochemical reaction between a fuel gas and an oxidizing gas, and a load device which is supplied with electric power from the fuel cell, the fuel cell system being ~~characterized by comprising:~~

a gas supply unit that supplies each of the fuel gas and the oxidizing gas to an anode and a cathode of the fuel cell, respectively by quantity corresponding to a load of the load device;

a gas permeation quantity estimation unit that estimates a gas permeation quantity of at least one of the fuel gas and the oxidizing gas between the anode and the cathode after the power generation performed by the fuel cell is stopped; and

a correction unit that corrects a supply quantity of at least one of the fuel gas and the oxidizing gas each corresponding to the load in accordance with the estimated gas permeation quantity, which is to be supplied by the gas supply unit upon a subsequent start of power generation.

2. (Currently Amended) The fuel cell system according to claim 1, ~~characterized in that~~wherein the gas permeation quantity is estimated based on a drop rate of an open circuit voltage after the power generation performed by the fuel cell is stopped.

3. (Currently Amended) The fuel cell system according to claim 2, ~~characterized in that~~wherein the drop rate of the open circuit voltage is calculated based on an amount of a voltage drop that has occurred between the anode and the cathode due to a leakage of the fuel

gas to the cathode and a leakage of the oxidizing gas to the anode after the power generation performed by the fuel cell is stopped, an elapsed time from when the power generation performed by the fuel cell is stopped, and a function which has been obtained through experiment or simulation calculation preliminarily.

4. (Currently Amended) The fuel cell system according to claim 1, ~~characterized in that~~wherein the gas permeation quantity is estimated based on a gas pressure decrease rate in the fuel gas after the power generation performed by the fuel cell is stopped.

5. (Currently Amended) The fuel cell system according to claim 4, ~~characterized in that~~wherein the gas pressure decrease rate is calculated based on the estimated gas permeation quantity which has been obtained through experiment or simulation calculation preliminarily based on a fuel gas pressure in the anode after the power generation performed by the fuel cell is stopped, a decrease in the fuel gas pressure for an elapsed time from when the power generation performed by the fuel cell is stopped until when the power generation performed by the fuel cell is restarted, and the elapsed time.

6. (Currently Amended) The fuel cell system according to claim 1, ~~characterized in that~~wherein the correction unit independently sets each of a correction amount of the fuel gas and a correction amount of the oxidizing gas based on the estimated gas permeation quantity.

7. (Currently Amended) The fuel cell system according to claim 1, ~~characterized in that~~wherein the gas permeation quantity estimation unit independently estimates each of

the gas permeation quantity of the fuel gas and the gas permeation quantity of the oxidizing gas.

8. (Currently Amended) The fuel cell system according to ~~any one of claims 1 to 7, characterized in that~~wherein the power generation performed by the fuel cell is brought into a stopped state in an intermittent operation mode of the fuel cell.

9. (Currently Amended) A gas control method of a fuel cell system including a fuel cell that generates electricity through an electrochemical reaction between a fuel gas and an oxidizing gas, and a load device which is supplied with electric power from the fuel cell, ~~characterized by~~ comprising the steps of:

supplying each of the fuel gas and the oxidizing gas to an anode and a cathode of the fuel cell, respectively by quantity corresponding to a load of the load device;

estimating a gas permeation quantity of at least one of the fuel gas and the oxidizing gas between the anode and the cathode after the power generation performed by the fuel cell is stopped; and

correcting a supply quantity of at least one of the fuel gas and the oxidizing gas corresponding to the load in accordance with the estimated gas permeation quantity, which is to be supplied upon a subsequent start of power generation.